

REMARKS/ARGUMENTS

Support for the amendment to Claim 4 is found in Claim 1 as originally filed and at specification page 19, lines 10-17. New Claims 6-8 are supported by original Claim 4. New Claim 9 is supported at specification page 19, lines 17-21. New Claim 10 is supported at specification page 5, lines 4-9. New Claims 11-14 are supported by original Claim 2. New Claim 15 is supported at specification page 5, line 31 – page 6, line 21. New Claim 16 is supported at specification page 7, line 30 – page 10, line 9. New Claim 17 is supported at specification page 6, lines 23-27 and at page 11, lines 6-20. New Claims 18 and 19 are supported at specification page 16, lines 19-27. New Claim 20 is supported at specification page 18, lines 4-9 and 25-27. New Claims 21 and 22 are supported at specification page 19, lines 2-9. No new matter has been entered.

By the above amendment Applicants have focused the pending claims on the method of forming a silicon-cobalt film of original Claim 4. This method comprises forming a coating film of a silicon-cobalt film forming composition comprising a silicon compound and a cobalt compound on a substrate and subjecting the coating film to a heat treatment and/or a light treatment. As specified in the claims, after such treatment a silicon-cobalt film having a Co/Si atomic ratio of 0.01 to 10 is formed. The prior art does not disclose or suggest such a method.

Ikai discloses a method for producing a semiconducting material by subjecting a hydrosilane monomer to dehydrogenative condensation followed by thermal decomposition. As explained at column 2, lines 15 ff of the reference, the dehydrogenative condensation occurs upon contacting a hydrosilane compound with a catalyst to provide a condensate. The catalysts, described at column 8, lines 41-53, include cobalt compounds (see also the paragraph bridging columns 10-11 of the reference). The condensate is then treated with acid or further purified by, for example, re-precipitation, these purification techniques optionally

being combined (column 15, lines 29-37). The condensate is *then* subjected to thermal decomposition in the *absence* of the catalyst used to produce the condensate. See, for example, column 16, lines 35 ff as exemplified at column 17, lines 15-20, 31-32, 47-58, etc.

As is clear from this disclosure, the catalyst used to produce the initial condensate is *not* carried over or present during the thermal decomposition of the condensate into the disclosed brown films. These films of Ikai are to be contrasted with the presently claimed silicon-cobalt film having a Co/Si atomic ratio of 0.1 to 10. As noted at, e.g., present specification page 19, the present invention silicon-cobalt films show a metallic quality and, as required in the claims, contain at least 10% Co relative to Si (i.e., a Co/Si atomic ratio of at least 0.1). Because nothing in the reference discloses or suggests such a film, the rejection should be withdrawn.

The rejection over Nakayama similarly is traversed. The Nakayama material is derived from a paste formed from a mixture of nickel silicate, cobalt silicate, or a mixture thereof in combination with a glass frit, followed by calcining. See, for example, Claim 3 at page 1 of the English translation and Example 1 therein. Clearly, any “film” formed after calcining necessarily will contain the elements of the glass frit, such as Al and B, in large quantities and in addition to any Co and Si present. Thus, any “film” produced in Nakayama is not a silicon-cobalt film as claimed. In addition, there is nothing in the reference that would guide one of ordinary skill in the art to the presently claimed atomic ratio of Co to Si. Because Nakayama does not prepare a silicon-cobalt film as presently claimed the rejection should be withdrawn.

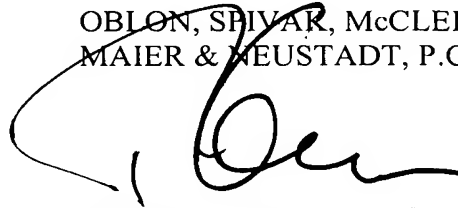
Finally, the rejection over Jeng is traversed. The method described in Jeng is a CVD method completely unrelated to the method claimed here (notably, Jeng was not applied against original Claim 4), and in view of this difference the reference should not be applied against the currently pending claims.

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Accordingly, and in view of the above amendments and remarks, Applicants respectfully submit that the present application is now in condition for allowance, and early notification to this effect is respectfully requested.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read 'Richard L. Treanor', is written over a horizontal line.

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